



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/004,656      | 12/04/2001  | Thomas A. Figura     | 303.645US2          | 1555             |

21186 7590 02/13/2003

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. BOX 2938  
MINNEAPOLIS, MN 55402

|                  |              |
|------------------|--------------|
| EXAMINER         |              |
| THOMAS, TONIAE M |              |
| ART UNIT         | PAPER NUMBER |

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/004,656

Applicant(s)

FIGURA, THOMAS A.

Examiner

Toniae M. Thomas

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2002 and 12 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-15, 17-21 and 23-34 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 10, 16 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2822

### **DETAILED ACTION**

1. This action is a first Office action on the merits of Application No. 10/004,656, which is a divisional of 09/382,931 filed on 25 August 1999, now US Patent No. 6,326,295, which is continuation-in-part of 09/140,810 filed on 25 August 1998, now US Patent No. 6,066,552.
2. The preliminary amendment received on 24 April 2002 added claims 23-34. Currently, claims 1-34 are pending.

### ***Specification***

3. The disclosure is objected to because of the following informalities: the specification includes terminology that is different from that which is generally accepted in the art to which this invention pertains. In the instant application, SRAM is used as an acronym for synchronous random access memory. The term SRAM is an art-recognized acronym, which is used in the art to refer to static random access memory devices. Because SRAM is an art-recognized term used in the art to refer to static random access memory devices, the term cannot be given another meaning. That is, the term cannot be used in this application to refer to synchronous random access devices. Appropriate correction is required.

### ***Claim Objections***

4. Claims 10, 16, and 22 are objected to because of the following informalities: the claims include terminology that is different from that which is generally accepted in the

Art Unit: 2822

art, to which this invention pertains. As discussed above, the term SRAM is an art-recognized acronym, which is used in the art to refer to static random access memory devices. Because the term already has a specific meaning in the art, the term cannot be used in the claims to refer to synchronous random access devices. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. *Claims 1-4, and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Jeng (US 6,080,620 B1).*

Jeng discloses an integrated circuit comprising the following elements (figs. 2-11A, 12-18 and accompanying text): a number of semiconductor surface structures 25, 27 spaced apart along a substrate 10 (fig 2); a number of plugs 46, 48 contacting the substrate between the number of surface structures, wherein the number of plugs includes an inner plug 48 and a pair of outer plugs 46, each one of the outer pair being formed adjacent to and on opposing sides of the inner plug, each one of the outer pair

Art Unit: 2822

having upper portions, wherein the upper portions cover areas of the structures (fig. 11A); and an inner electrical contact 50 coupling to the inner plug and separated from the upper portions by a pair of opposing spacers 60 (fig. 12).

The device further includes a pair of outer contact regions 68, wherein each of the outer contacts individually couples to one of the outer pair of plugs (fig. 17).

The outer plugs 46 include storage node plugs, and the outer contact regions 68 include storage nodes (col. 5, lines 1-2 and 25-27).

The surface structures 25, 27 include isolated word lines (col. 3, lines 50-54).

The plugs include polysilicon plugs (col. 4, line 54 – col. 5, line 8).

The inner plug 48 includes a bit line plug, and the inner electrical contact 50 includes a bit line contact (col. 4, line 54 – col. 5, line 8).

The device includes a DRAM.

### ***Allowable Subject Matter***

6. Claims 5, 6, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 5 would be allowable if rewritten as discussed above because the prior art of record does not anticipate, teach or suggest that the surface structures include isolated flash memory cells. Claim 6 would be allowable because the prior art of record does not anticipate, teach or suggest that the inner plug be located beneath the top surface of the surface structures. Claim 10 would be allowable if rewritten as discussed above, and if rewritten to correct the

Art Unit: 2822

problem discussed in Section 4, because the prior art of record does not anticipate, teach or suggest that the DRAM is a synchronous RAM.

Claims 11-15, 17-21, and 23-34 are allowable. The claims are allowable because the prior art of record does not anticipate, teach or suggest that the inner plug be located beneath the top surface of the surface structures.

Claims 16 and 22 depend from allowable claims. Therefore claims 16 and 22 would be allowable if rewritten to correct the problem discussed in Section 4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M. Thomas whose telephone number is (703) 305-7646. The examiner can normally be reached Monday through Thursday, and alternating Fridays, from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (703) 308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TMT  
February 9, 2003

  
AMIR ZARABIAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800